BMB

Better Music Builder

OWNER'S MANUAL

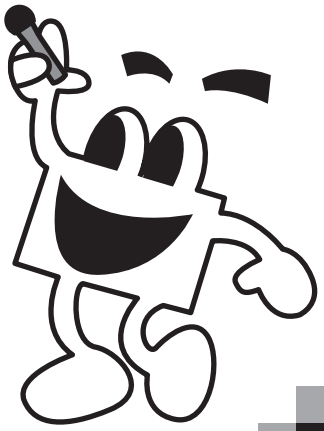
Karaoke Mixing Amplifier

DX-222

Operating Instructions

The World's first
CPU-controlled
Karaoke Amplifier

Thank you for purchasing this unit. To make full and effective use of this unit, please read this Owner's Manual carefully before operating it. After reading this manual, retain this booklet together with the Warranty Card for future use in case of maintenance or troubleshooting.



EVOLUTION OF KARAOKE

www.bmbkaraoke.com

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED PERSONNEL

SAFETY INSTRUCTIONS

1. Read Instructions: All the safety and operation instructions should be read before this BMB product is operated.

2. Retain Instructions: The safety and operating instructions should be kept for future reference.

3. Warnings: All warnings on this BMB product in these operating instructions should be followed.

4. Follow Instructions: All operating and other instructions should be followed carefully.

5. Water and Moisture: This BMB product should not be used near water, for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, swamp or salivating St. Bernard dog, etc.

6. Cleaning: Clean only with a dry cloth.

7. Ventilation: This BMB product should be situated so that its location or position does not interfere with its proper ventilation. For example, the Component should not be situated on a bed, sofa, rug, or similar surface that may block any ventilation openings, or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through ventilation openings.

8. Heat: This BMB product should be stayed away from heat sources such as radiators, or other devices producing heat.

9. Power Sources: This BMB product should be connected to a power supply only of the type described in these operation instructions or as marked on this BMB product.

10. Power Cord Protection: Power supply cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them. Please pay particular attention to cords plugs, convenience receptacles, and the point where they exit this BMB product.

11. Object and Liquid Entry: Care should be taken so that objects do not fall on, or liquids are not spilled into this BMB product.

12. Damage Requiring Service: This BMB product should be serviced only by qualified service personnel when:

A. The power-supply cord or the plug has been damaged; or
B. Objects have fallen, or liquid has spilled into this BMB product; or
C. This BMB product has been exposed to rain; or
D. This BMB product does not appear to operate normally or exhibits a marked change in performance; or
E. This BMB product has been dropped, or its chassis damaged.

13. Servicing: The user should not attempt to service this BMB product beyond those means described in this operating manual. All other servicing should be referred to the BMB Service Department.

14. To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

15. Grounding or Polarization: Precautions should be taken so that the grounding or polarization means of this BMB product is not defeated.

16. Power Precaution: Unplug this BMB product during lightning storms or when unused for long periods of time. Note that this BMB product is not completely disconnected from the AC mains service when the power switch is in the OFF position.

17. This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the US Department of Communications.

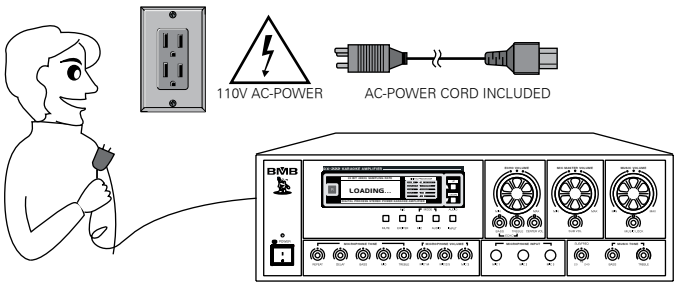
18. Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will loss some hearing if exposed to sufficiently intense noise for a period of time. The U.S.

Government's Occupational Safety and Health Administration (OSHA) have specified the permissible noise level exposures shown in the following chart.

According to OSHA, any exposure in excess of these permissible limits could result in some hearing loss. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels use hearing protectors while the equipment is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating the equipment in order to prevent a permanent hearing loss if exposure is in excess of the limits set forth here.

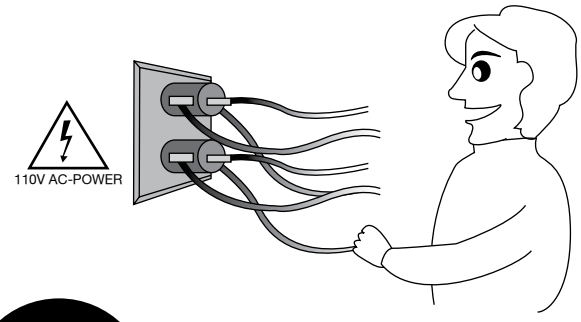
AC-Power Sources

This set should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, or other sources, refer to the operating instructions.



Overloading

Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.



An appliance and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combination to overturn.

Accessories

Do not place the set on an unstable cart, stand, tripod, bracket, or table. The set may fall, causing serious injury to a child or an adult, and serious damage to the set. Use only a cart stand tripod, bracket, or table recommended by the manufacturer.

For the set with a three-wire grounding type ac plug:
This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the grounding plug.

The serial and model number for this unit is located on the rear panel. Please write down the numbers here and retain for future reference.

Model No._____
Serial No._____
Purchase Notes:
Date of Purchase_____
Dealer Name_____
Dealer Address_____
_____
Dealer Phone_____
E-Mail_____

CONTENTS

Introduction	4
Safety precautions	5
Specifications	5
Package accessories	5
Name and functions of remote controller	6
Operating instructions	7~8
Features and functions of the amplifier	8~11
How to connect speaker	12
How to connect music A.V. source	12
How to connect recorder	12
Connector information	13
Physical	13
How to connect microphone	14
Maintenance note	15

INTRODUCTION

Thank for your choosing BMB DX-222 Karaoke Mixer with DSP (Digital Sound Processor) and built-in feedback destroyer. We appreciate your vote of confidence in this innovative product. Our talented engineering team has many years of experience in audio equipment design. BMB DX-222 includes distinguished features of 8 to 10 channel mixer, equalizer, feedback destroyer, Karaoke key controller and crossover into one single unit by using state-of-the-art CPU control technology. Therefore, it is very easy for anyone to operate it without any complications. We hope you have fun with it and enjoy playing it.

BMB DX-222 is equipped with the following special features:

❖ DSP (Digital Sound Processor)

❖ 4 kinds of DSP Karaoke effect selection: (1) Stereo effects (2) Echo effects (3) Two effects mixed with fixed echo return times, with no adjusting (4) Adjust the fix-up effects setup by manufacturer. Parameters cannot be adjusted.

❖ High performance 24-bit multi-engine effect process

❖ High-precision vacuum tube turbo vocal microphones/line preamplifier

❖ Discrete mic/line input sates with soft mute +48 phantom power

❖ Ultra-wide bandwidth from 2 Hz to 200 kHz for open sound

❖ Built-in high quality vacuum tube for outstanding, ultra-musical tube sound

❖ Music tone with bass +/- 10dB and treble +/- 10dB

❖ High-performance 24-bit dual-engine Feedback Destroyer

❖ Two software engines allow independent or coupled functions on left and right channels on lines preamplifier

❖ Single-Shot mode automatically searches and attenuates feedback frequencies and locks the filter until manually reset

❖ Music modulation with 9-step key control and adjustable up and down effects for selection

❖ Music volume lock is used to lock up the super bass

❖ 2-Way stereo crossover

❖ 24 dB/octave, state-variable Linkwitz-Riley filters for precise frequency separation

❖ Absolutely flat summed amplitude response with zero phase difference

❖ Separate subwoofer output with independent frequency control

❖ The super bass volume can be adjusted from 00 dB to the maximum 80 dB

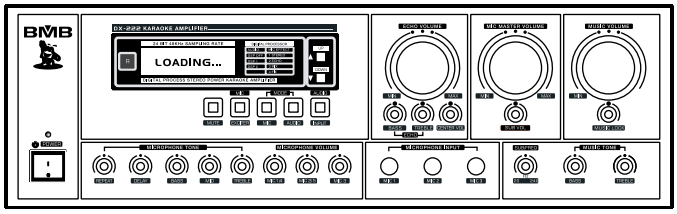
❖ On/Off switch for super bass

❖ Subwoofer auto cut to adjust the parameters from 00 dB to 50 dB

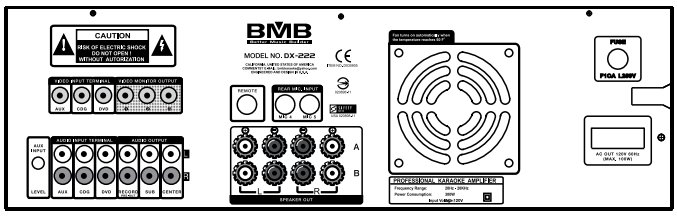
❖ Dynamic or condenser microphone limiter effectively protects your equipment from overload

❖ Microphone reverb (echo) time delay and repeat adjusting for parameters between 30 mS to 190 mS

Font Panel View



Rear Panel View



SAFETY PRECAUTIONS

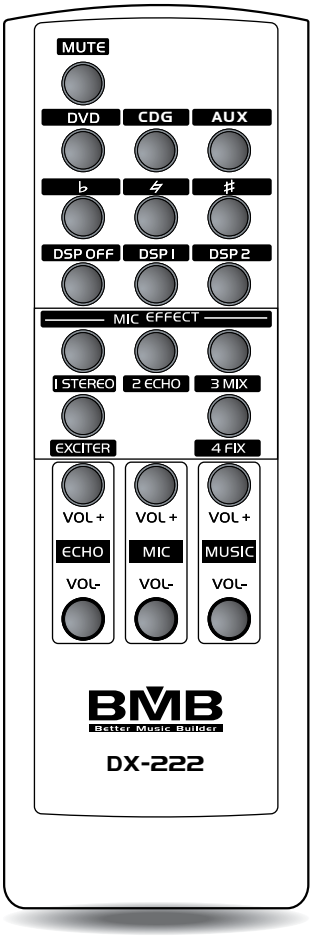
Selecting fine audio equipment such as the unit you've just purchased is only the first step to your musical enjoyment. Now it's time to consider how you can maximize the fun and the safety of your new equipment. We want you to get the most out of your equipment by playing it at a safe level without affecting your hearing. Sound can be very harmful. Over time your hearing "comfort level" adapts to higher volume of sound. What sounds "normal" can actually be loud and harmful to your hearing. Therefore, please guard against this by setting your equipment at a safe level before your hearing adapts. To establish a safe level, you can start your volume control at a low setting, then slowly increase the sound until you can hear it comfortably and clearly. If used wisely, your new sound equipment will provide you a pleasant experience in music. Since hearing damage from loud noise is often undetectable until it is too late, we recommend you avoid prolonged exposure to excessive noise. The following noises can be dangerous under constant exposure. Therefore, please be cautious with the dB level when playing your new equipment.

Decible Level	**Example**
120 dB	Rock band concert in front of speakers, thunderclap
140 dB	Gunshot blast, jet plane
180 dB	Rocket launching pad

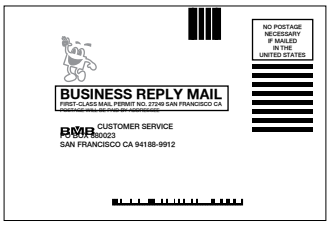
SPECIFICATIONS

Audio Out.....	500W (250W+250W)
Music Input (DVD,CDG, AUX)	
S/N Ratio.....	>90dB
THD.....	0.01%
Input Sensitivity/Impedance.....	0.707v/47k. ohm
Frequency Response.....	20Hz~20kHz –2dB
Max. Output.....	4Vpp/60W
HF (increase/attenuate).....	–10dB
LF (increase/attenuate).....	–10dB
Key Control.....	–4dB
Super Bass (SUB): THD.....	0.07% 20Hz~15kHz
Mic. Input Section (4 input)	
S/N Ratio.....	>80dB (effect on)
THD (effect off).....	0.04% 50Hz~16kHz
Frequency Response.....	50Hz~20kHz –3dB
Input Sensitivity/Impedance.....	100mv~500mv/4.7KW
Equalize	
Low.....	100Hz–5dB
Middle.....	1kHz–5dB
High.....	10kHz–5dB
Standard Power.....	AC 220V/50Hz
Power Consume.....	500 W
Weight.....	28 LBs
Dimensions.....	17"X14.5"X6"

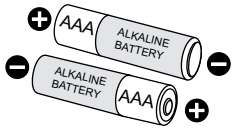
PACKAGE ACCESSORIES



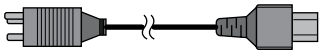
Remote control one unit



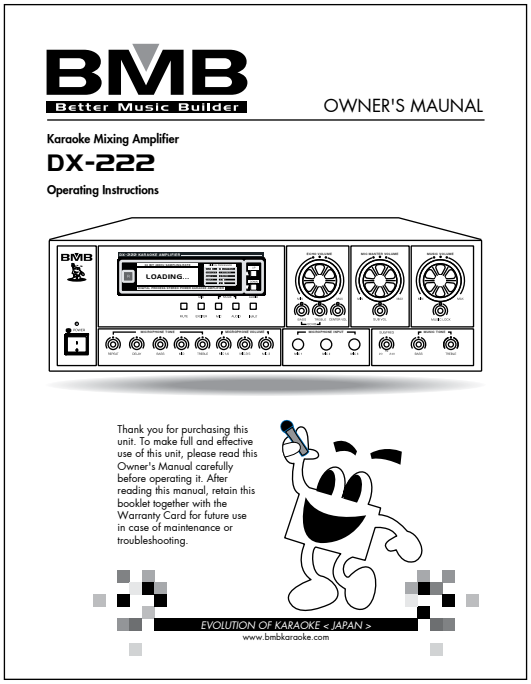
Consumer survey card
<Mail in U.S.A. only>



Battery size: AAA (R6 1.5 V)

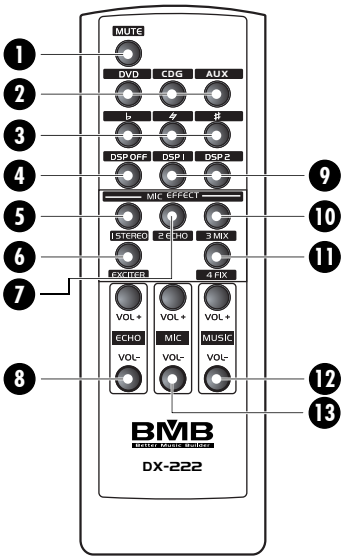


AC power cable (6 feet)
United States (2M) to IEC (F)



Owner's manual

NAMES AND FUNCTIONS OF REMOTE CONTROLLER COMPONENTS



❶ MUTE BUTTON

❷ INPUT SELECT BUTTON: DVD, CDG, AUX

❸ KEY CONTROL: ♭ LOW, ♮ NATURAL, ♯ HIGH

❹ MUSIC MODULATOR CONTROL BUTTON

❺ 1. STEREO KARAOKE EFFECT SELECT

❻ EXCITER KARAOKE EFFECT SELECT

❼ 2. ECHO KARAOKE EFFECT SELECT

❽ ECHO VOLUME UP & DOWN BUTTON

❾ DSP EFFECT 1 & 2

❿ 3. MIXED KARAOKE EFFECT SELECT

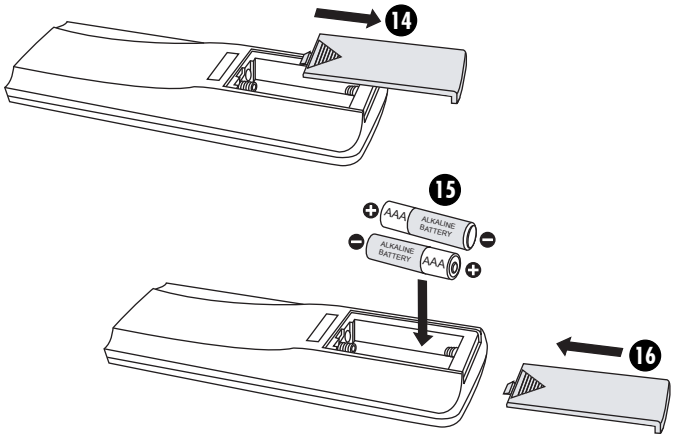
⓫ 4. FIXED KARAOKE EFFECT SELECT

⓬ MUSIC MASTER VOLUME CONTROL UP & DOWN BUTTON

⓭ MICROPHONE VOLUME UP & DOWN BUTTON

⓮ OPEN BATTERY COVER

Open the battery compartment cover on the back of the remote control unit. The cover should open easily if you press on in with your thumb while sliding it in the direction of the arrow.



⓯ INSERTING BATTERIES

Insert two size AAA 1.5V (R6) alkaline batteries by matching the **+** and **–** on the batteries to the diagram inside the battery compartment.

⓰ CLOSE BATTERY COVER

Close the cover of the battery case.

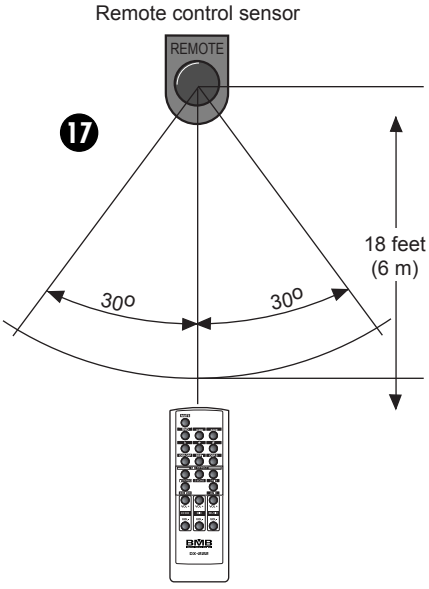
NOTE

Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.

Handle the remote control with care. Avoid dropping it, getting it wet, or placing it in direct sunlight, near a heater, or where the humidity is high.

⓱ USING REMOTE CONTROL UNIT

When operating the remote control unit, point the unit's infrared signal transmitter at the remote control remote sensor **R** on the front panel of the AV processor. The remote control unit can be used within a range of about 18 feet (6m) from the remote sensor, and within angles of up to about 30 degrees.



OPERATIING INSTRUCTIONS

1. Turn on the DX-222 by pressing **I/O** (ON/OFF POWER) button.

2. After pressing the **I/O** button, it takes about 40 seconds to boot up the machine for operation.

3. After the machine has been booted up, the Digital Display (VFD) would appear as follows:

Music Input

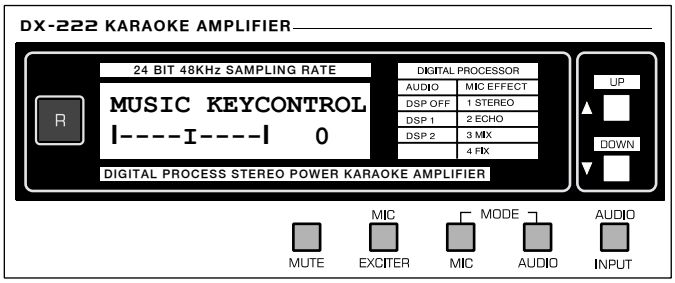
4. Press the INPUT/AUDIO button to select the source as follows:

NOTE Press the **INPUT/AUDIO** button to move the arrow to select the source AUX, CDG or DVD you want. After 10 seconds, the signal would be automatically locked.

Mode Adjustable (MIC, AUDIO)

5. Select the Audio Button
The first screen will be Music DSP Effect OFF, 1, 2 You may select your favorite mode at memory arrow to select 1 or 2 by using UP/DOWN botton.

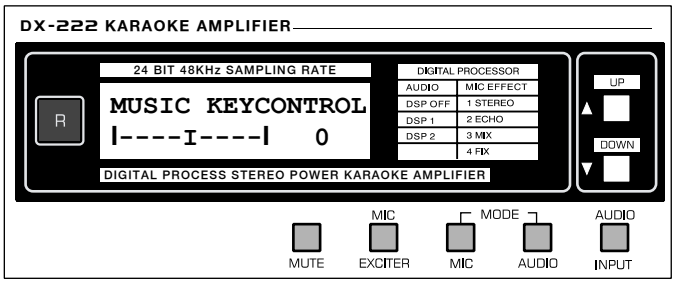
6. Key Control
Press the Audio button under MODE section twice and use button to select your favorite Key.



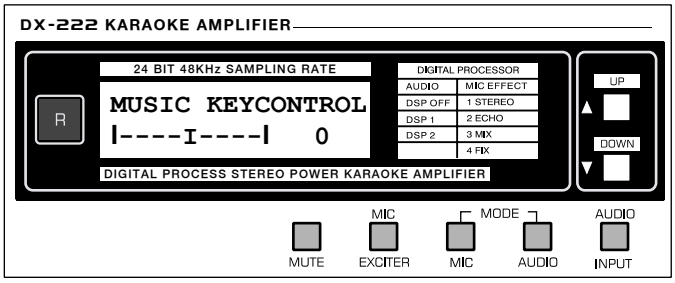
7. Select the Mic button under MODE section
The first screen will be Mic Effect Mode: You may select Mic Effect 1,2,3 or Fix by using UP/DOWN button.

8. Mic Volume Lock
Press the Mic button under MODE section twice to lock the Mic Volume screen and use UP/DOWN to lock ON/OFF mic. volume.

9. Mic Exciter Button
The first screen will be ON/OFF option: You may select the UP/DOWN button to turn ON/OFF. When the Exciter is on, it will increase the mic. signal sensitivity.



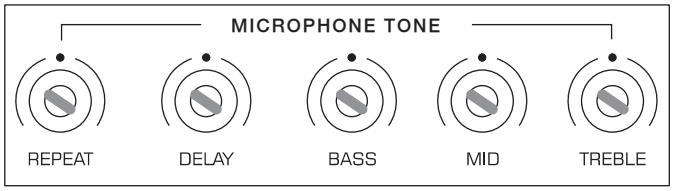
10. Mute Button (Music OFF only)



NOTE Press button to mute all music input (AUX,CDG, DVD) signals, but microphone input is still active.

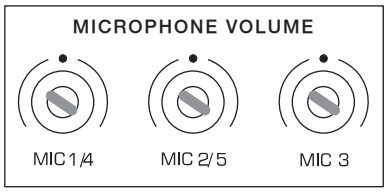
11. Microphone Tone (Adjustable)

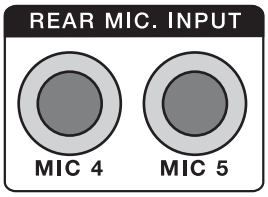
Repeat Adjust: For vocal timing repeat (button #19)
Delay Adjust: For vocal timing delay (button #20)
Bass Adjust: For vocal low frequency (button #21)
Mid Adjust: For vocal mid-tone frequency (button #22)
Treble Adjust: For vocal high frequency (button #23)



12. Microphone Volume (Adjustable)

Mic Input Level (Mic 1 front/4 rear): For mic input level adjustment.
Mic Input Level (Mic 2 front/5 rear): For mic input level adjustment.
Mic Input Level (Mic 3): For mic input level adjustment.





NOTE

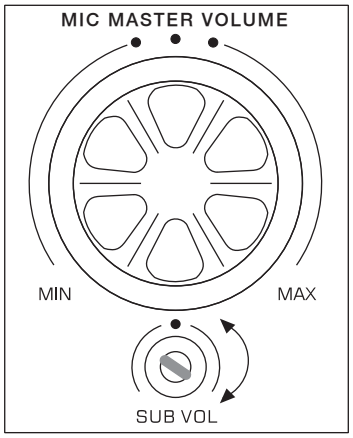
Mic 1/4: Mic 1 is the front mic. input and Mic 4 is rear input. They are connected to each other. When adjusting Mic 1/4, it will affect both Mic 1 and 4.

Mic 2/5: Mic 2 is the front mic. input and Mic 5 is rear input. They are connected to each other. When adjusting Mic 2/5, it will affect both Mic 2 and 5.

You may connect your wireless microphone systems from the rear Mic inputs (rear input terminals 4/5) for more organized design.

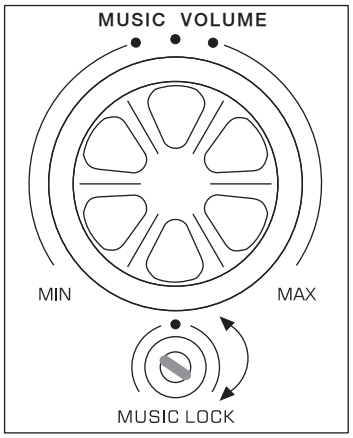
13. Mic Master Volume: Mic level input adjustment for all microphone inputs. (button #15)

14. Sub Volume: For adjusting subwoofer output level (button #14)



15. Music Volume: Music level adjustment for audio inputs (button #17)

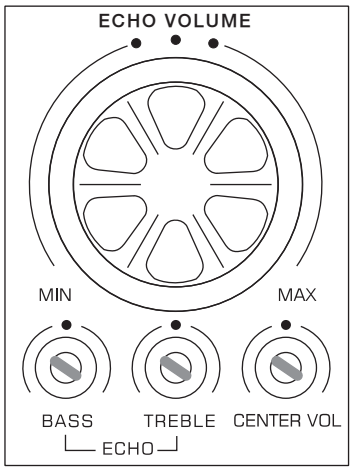
16. Music Lock: Set the music gain output to a certain level for protection.



17. Echo Volume: Echo level adjustment for all microphone inputs (button #12)

18. Echo (Adjustable)

Bass Adjust: For adjusting echo low frequency (button #10)
Treble Adjust: For adjusting echo high frequency (button #11)

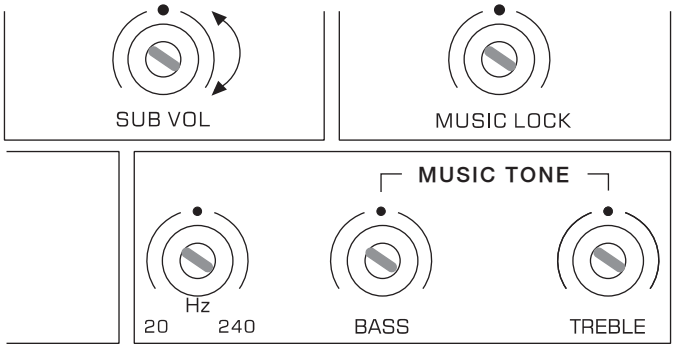


19. Center Volume: For adjusting center speaker output level (button #13)

20. Sub/Freq: Bass signal frequency response adjustment (button #30). Rear connection for powered subwoofer or amplifier. You may adjust subwoofer volume from front panel (button #14).

21. Music Tone

Bass Adjust: Music bass output control level (button # 31)
Treble Adjust: Music treble output control level (button #32)



NAMES AND FUNCTIONS OF FRONT PANEL COMPONENTS

❶ THE DISPLAY WINDOW FOR RECEIVING SIGNAL OF REMOTE CONTROL

❷ LCD: CPU display window

❸ MUTE BUTTON

❹ MIC. COMPRESS CONTROL KNOB
Mic. will be more sensitive

❺ MIC. MODE: Mic mode program button

❻ AUDIO MODE: Music mode program button

❼ UP CONTROL BUTTON
Move to up control button, should use it with MODE ADJUSTABLE program button together.

❽ DOWN CONTROL BUTTON
Move to down control button, should use it with MODE ADJUSTABLE program button together.

❾ AUDIO INPUT SELECTOR

❿ ECHO BASS ADJUSTING

⓫ ECHO TREBLE ADJUSTING

⓬ ECHO VOLUME CONTROL
Mic. echo depth effects control potentiometer knob

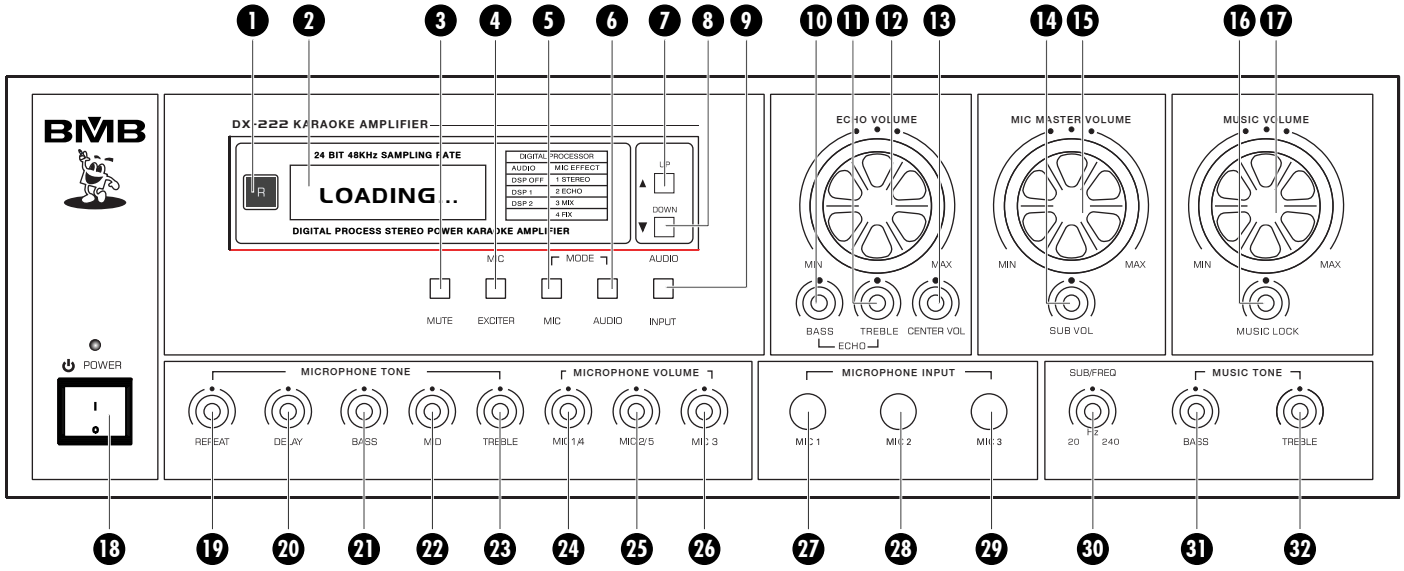
⓭ CENTRE VOLUME
Center speaker level control, connect to powered center speaker or amplifier.

⓮ SUBWOOFER VOLUME
Subwoofer level control, connect to powered Subwoofer or amplifier.

⓯ MIC. MASTER VOLUME CONTROL

⓰ MUSIC LOCK: Music output level gain.

⓱ MUSIC VOLUME CONTROL
This control allows you to adjust the volume of the musical source.



NAMES AND FUNCTIONS OF FRONT PANEL COMPONENTS

⓲ POWER SWITCH
Press this switch up to turn the power ON. Press the switch down to turn the power OFF.

⓳ MIC. REPEAT CONTROL
Hidden adjusting potentiometer of MIC. echo repeats.

⓴ MIC. DELAY CONTROL
Hidden adjusting potentiometer of MIC. echo delay.

㉑ MIC. BASS CONTROL
Adjusts the microphone 1 and microphone 2 for low frequency EQ response.

㉒ MIC. (MID) MIDDLE CONTROL
Adjusts the microphone 1 and microphone 2 for mid-tone frequency EQ response.

㉓ MIC. TREBLE CONTROL
Adjusts the microphone 1 and microphone 2 for high frequency EQ response.

㉔ MIC. (MICROPHONE) 1/4 VOLUME CONTROL
This control microphone 1 and microphone 2 to adjust the volume.

㉕ MIC. (MICROPHONE) 2/5 VOLUME CONTROL
This control microphone 1 and microphone 2 to adjust the volume.

㉖ MIC. (MICROPHONE) 3 VOLUME CONTROL
This control microphone 1 and microphone 2 to adjust the volume.

㉗ MIC. 1 INPUT 1/4 JACK
This jack is for connecting front 1 microphone and rear microphone 3.

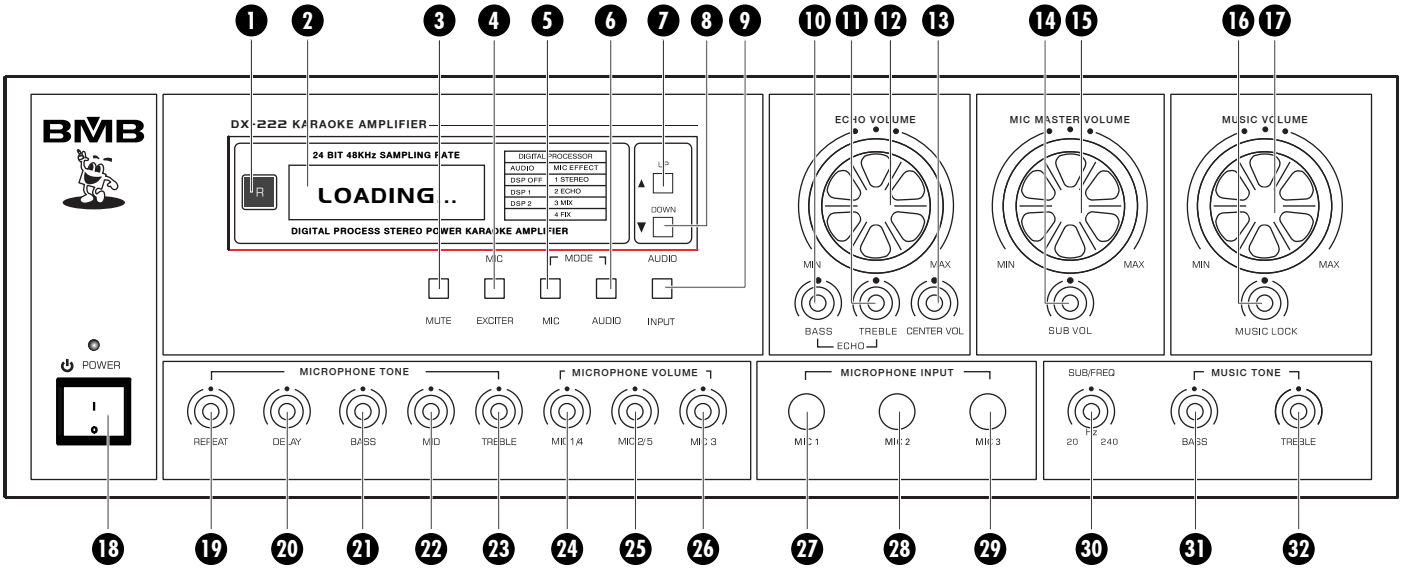
㉘ MIC. 2 INPUT 1/4 JACK
This jack is for connecting front 2 microphone and rear microphone 4.

㉙ MIC. 3 INPUT 1/4 JACK
This jack is for connecting front 2 microphone and rear microphone 5.

㉚ SUBWOOFER CROSSOVER CONTROL KNOB

㉛ MIC. BASS CONTROL
Adjusts the microphone 1 and microphone 2 for low frequency EQ response.

㉜ MIC. TREBLE CONTROL
Adjusts the microphone 1 and microphone 2 for high frequency EQ response.



NAMES AND FUNCTIONS OF REAR PANEL COMPONENTS

㉝ AUX VIDEO INPUT TERMINAL

㉞ CDG VIDEO INPUT TERMINAL

㉟ DVD VIDEO INPUT TERMINAL

㊱ VIDEO MONITOR 3 OUTPUT TERMINAL

㊲ REMOTE WIRED CONTROLLER CONNECTOR

㊳ 5/4 REAR MICROPHONE INPUT TERMAINAL

㊴ SMART FAN
It automatically turns on when the temperature reaches 60 degrees Fahrenheit. Therefore, if the fan is not on, it does not mean that it is not working. It has a built-in sensor to measure the temperature.

㊵ 120V 60Hz (MAX. 100W) AC-POWER PLUG

㊶ POWER FUSE HOLDER

㊷ AUX ADJUST SENSOR LEVEL

㊸ AUX AUDIO INPUT TERMINAL

㊹ CDG AUDIO INPUT TERMINAL

㊺ DVD AUDIO INPUT TERMINAL

㊻ RECORD AUDIO OUTPUT TERMINAL

㊼ SUBWOOFER AUDIO OUTPUT TERMINAL

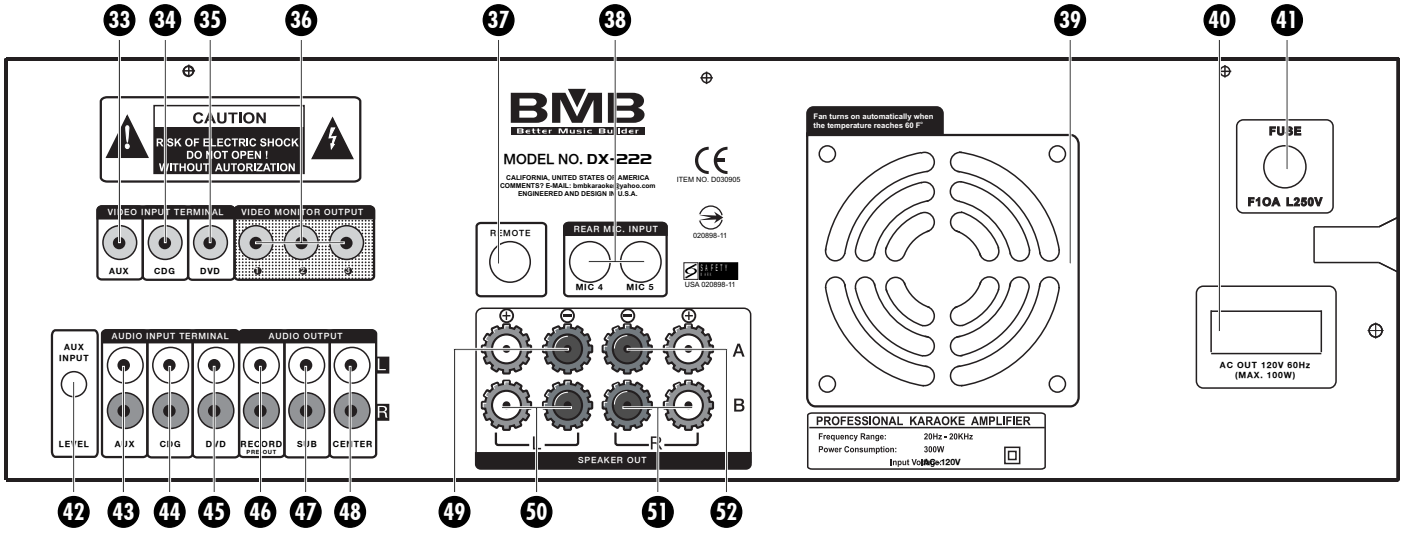
㊽ CENTER AUDIO OUTPUT TERMINAL

㊾ SPEAKER A (LEFT SIDE OUT)

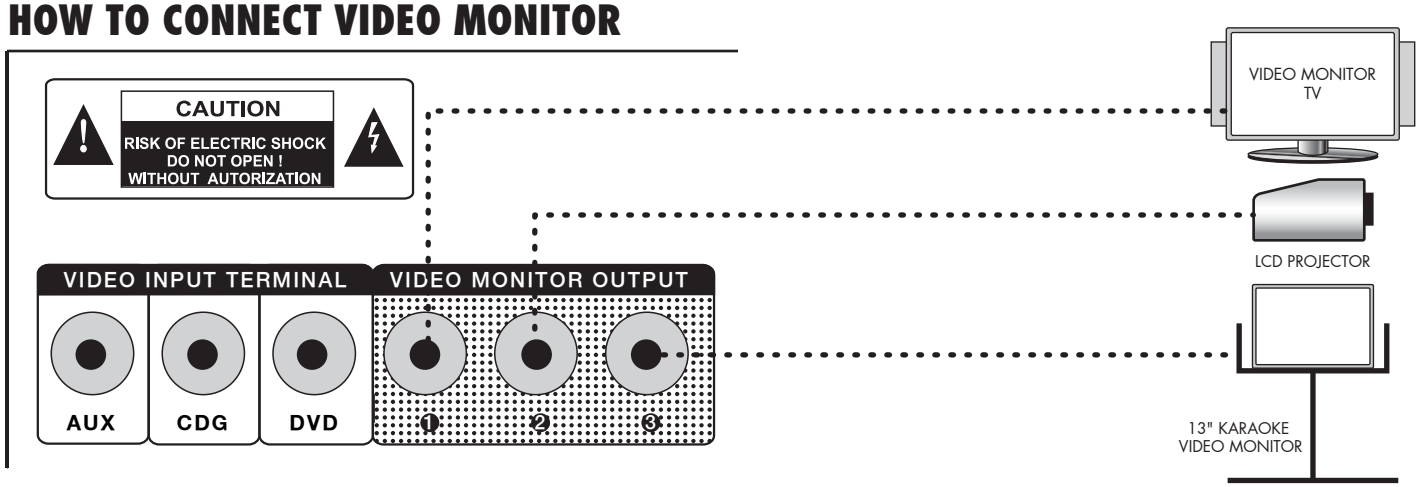
㊿ SPEAKER B (LEFT SIDE OUT)

(51) SPEAKER B (RIGHT SIDE OUT)

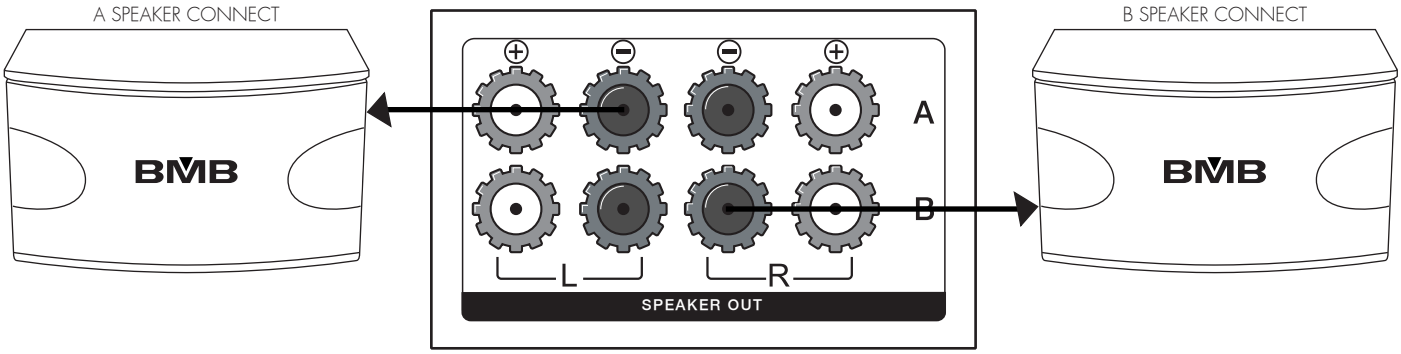
(52) SPEAKER A (RIGHT SIDE OUT)



HOW TO CONNECT VIDEO MONITOR

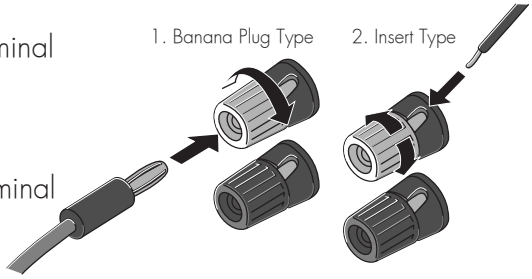


HOW TO CONNECT SPEAKER

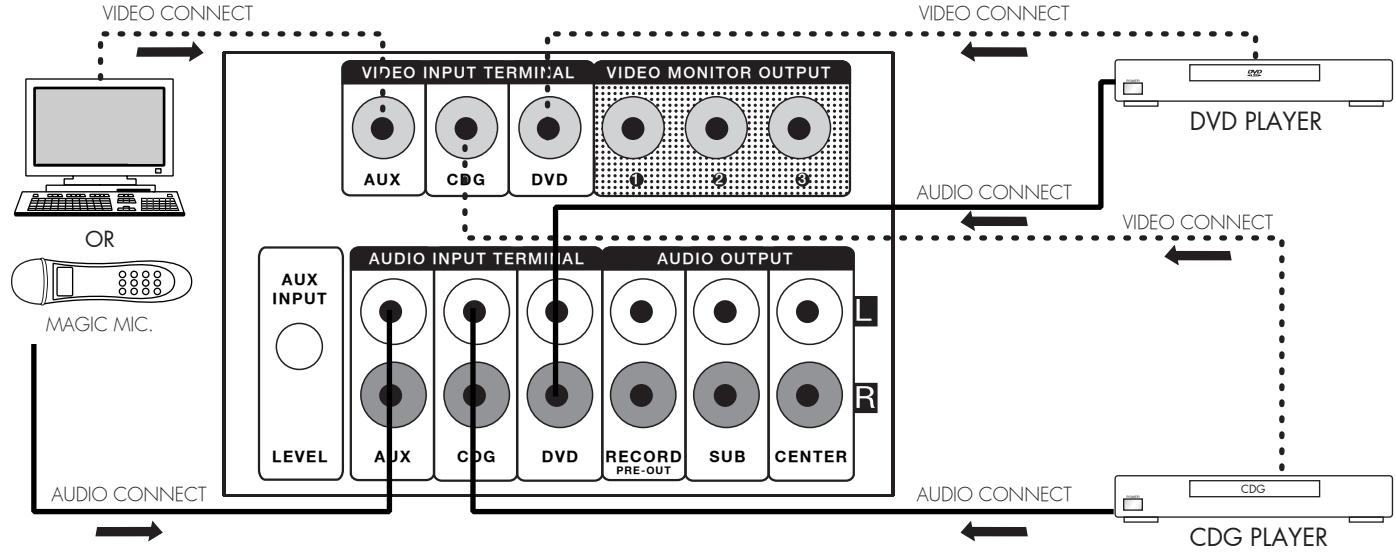


1. Use of banana type terminals:
Insert the banana-type terminal cable from the amplifier into the speaker terminal hole. The plus "+" side is marked red and minus "-" side is marked black.

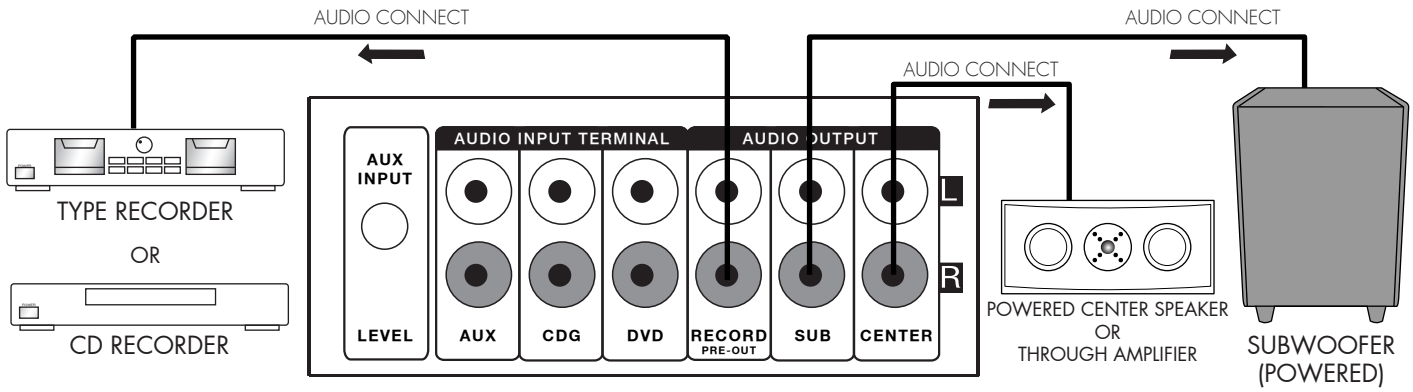
2. Use of insert-type terminals:
Depress the insert-type terminal cable from the amplifier into the speaker terminal hole. The plus "+" side is marked red and minus "-" side is marked black.



HOW TO CONNECT MUSIC A.V. SOURCE



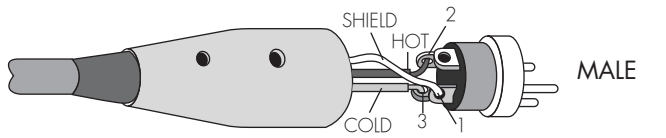
HOW TO CONNECT RECORDER & SUB WOOFER

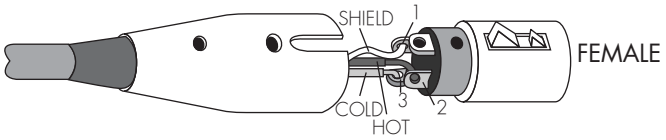


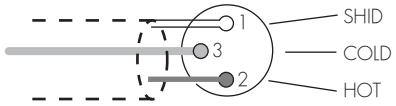
CONNECTOR INFORMATION

BALANCE XLR CONNECTORS

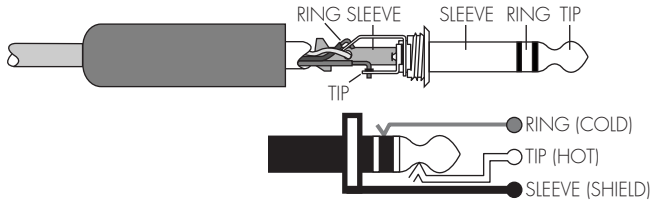
	XLR	TRS
Hot (+)	Pin 2	Tip
Cold (–)	Pin 3	Ring
Shield (Ground)	Pin 1	Shield



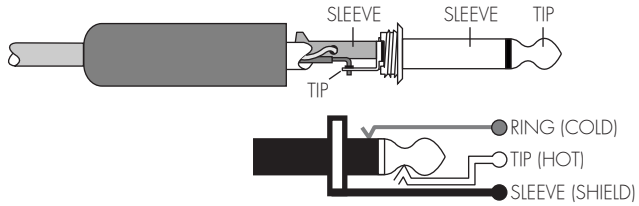




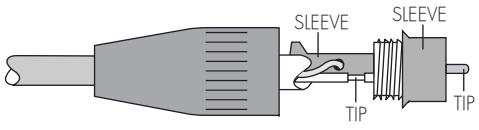
BALANCE $\frac{1}{4}$ TRS PLUG

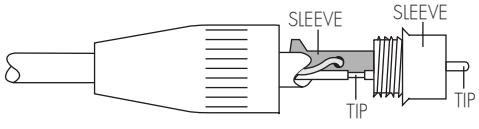


UNBALANCE $\frac{1}{4}$ TRS PLUG



RCA UNBALANCE JACK

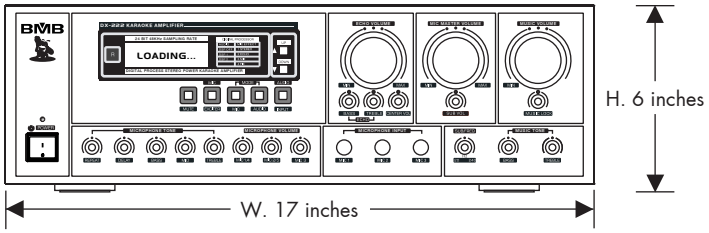




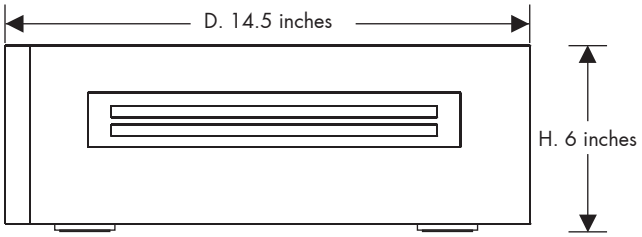
PHYSICAL

Height	6 inches
Width	17 inches
Depth	14.5 inches
Net Weight	28 LBs

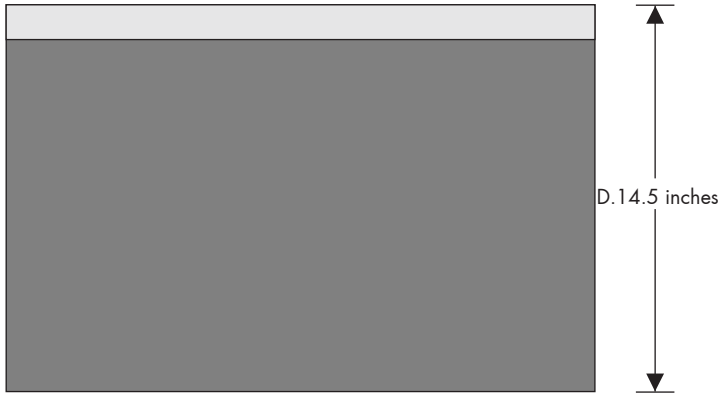
Front view



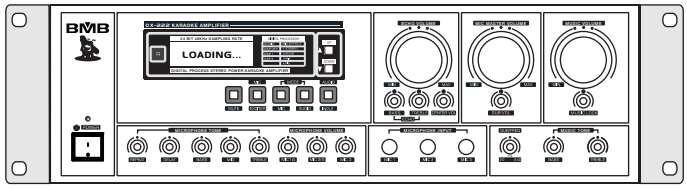
Side view

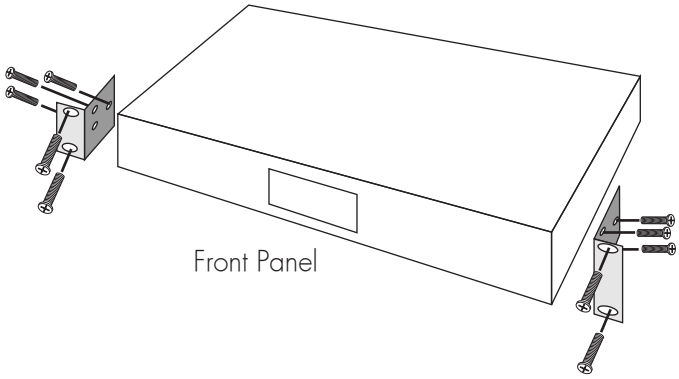


Top view

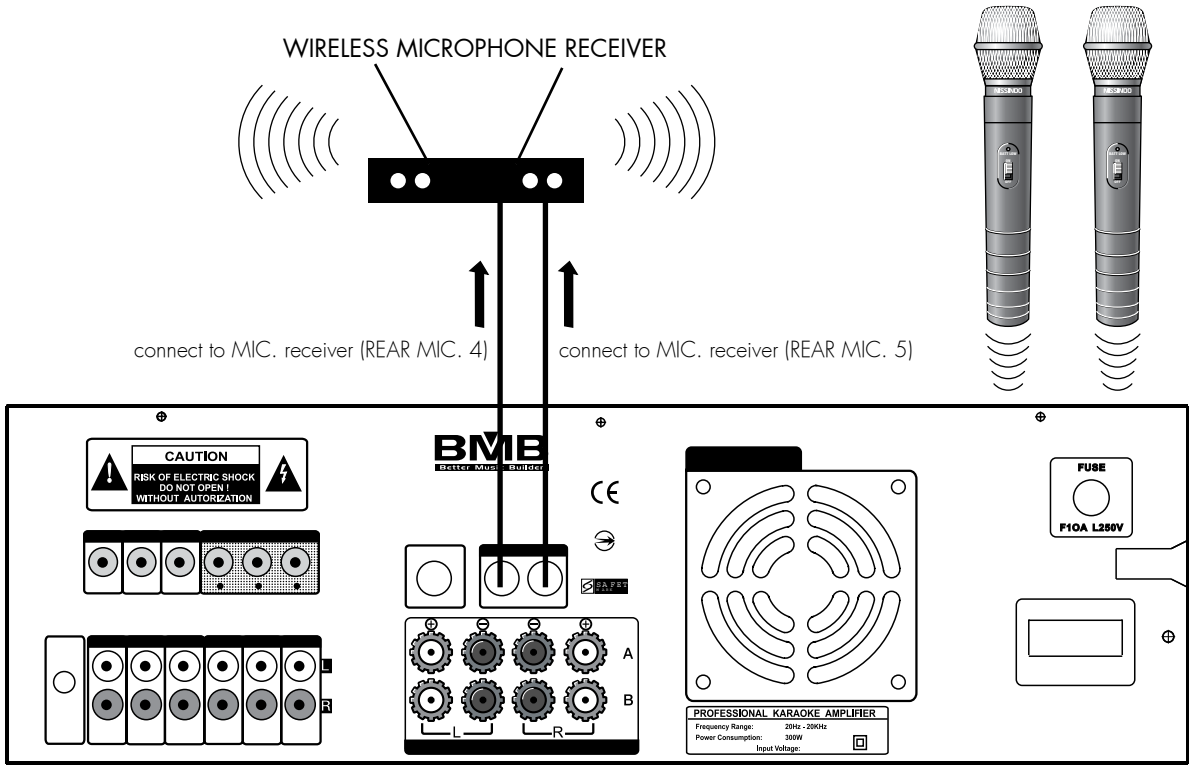


Optional for 19" rack mount kit

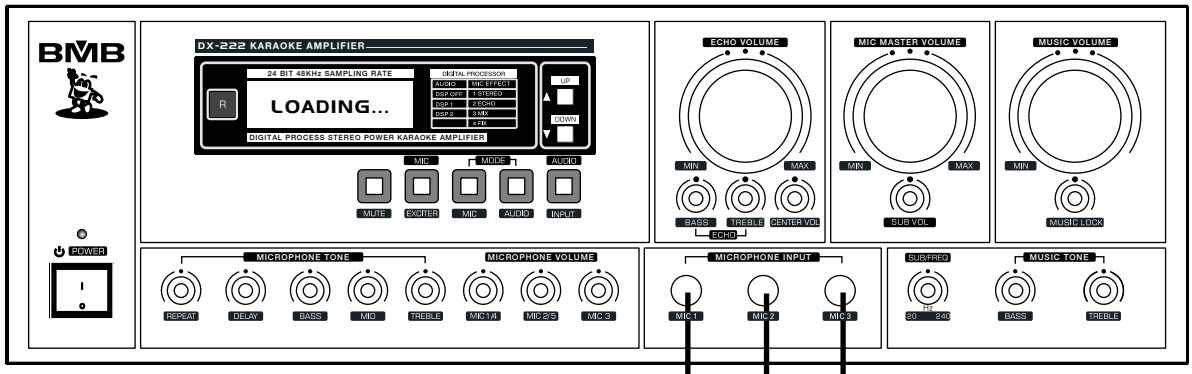




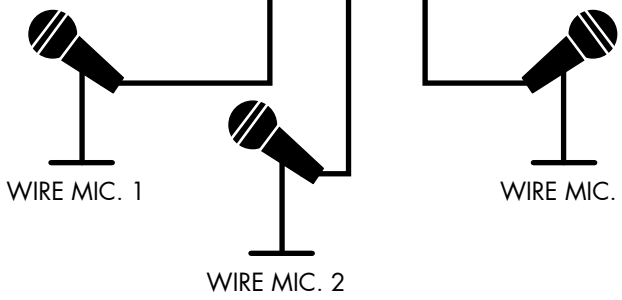
HOW TO CONNECT MICROPHONE

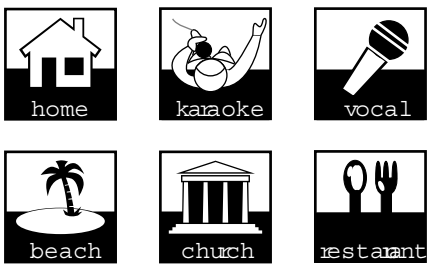


REAR PANEL



FRONT PANEL





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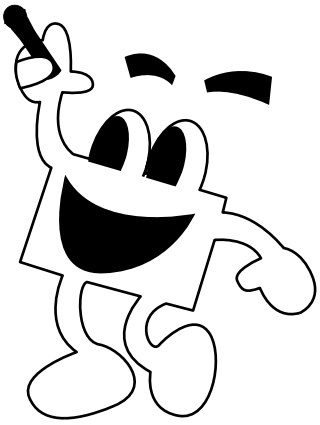
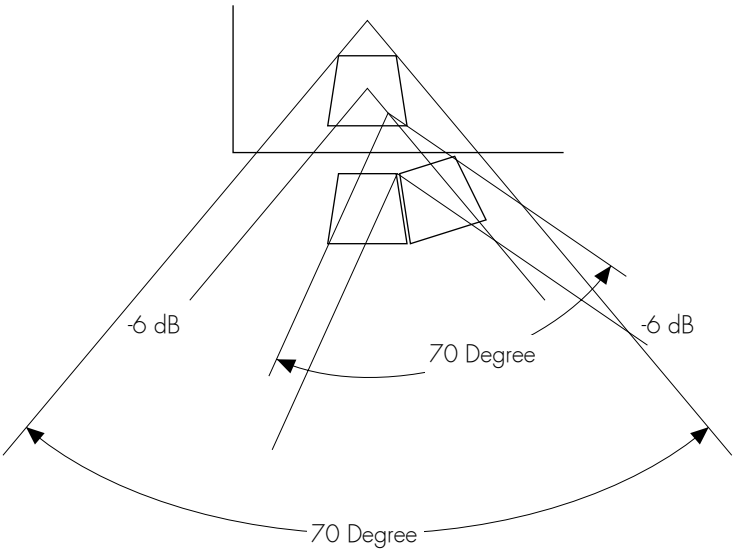
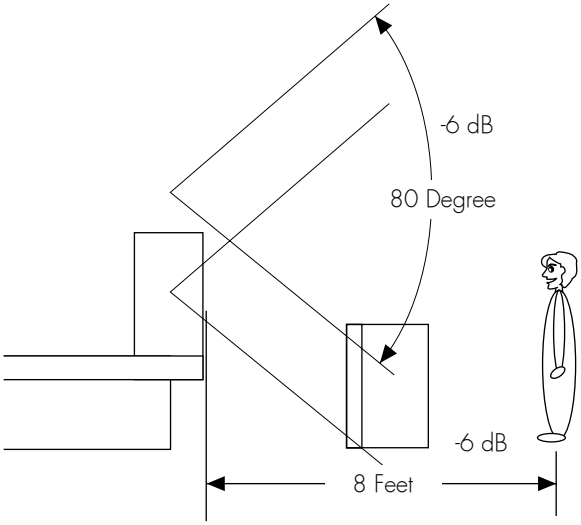
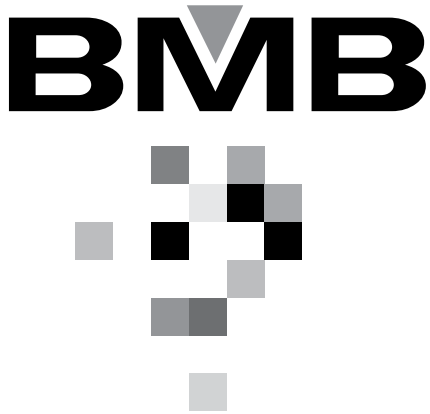






NOTE



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